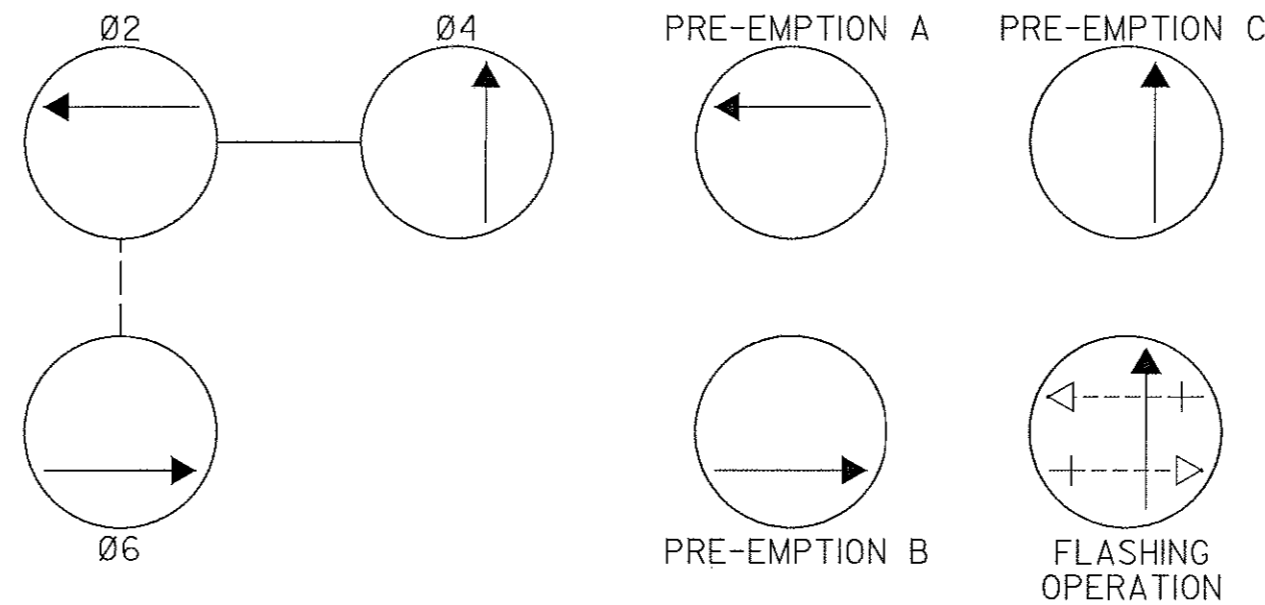


EAST NORTH AVENUE IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

PHASING DIAGRAM

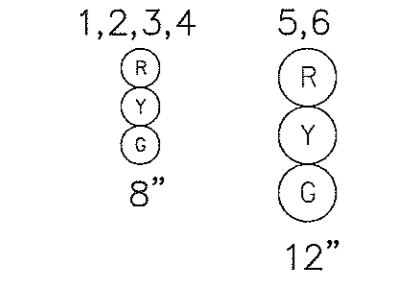
	1	2	3	4	5	6
PHASE 2+6	G	G	G	G	R	R
2+6 CHANGE	Y	Y	Y	Y	R	R
PHASE 4	R	R	R	R	G	G
4 CHANGE	R	R	R	R	Y	Y
PRE-EMPTION A	R	R	G	G	R	R
A CHANGE	R	R	Y	Y	R	R
PRE-EMPTION B	G	G	R	R	R	R
B CHANGE	Y	Y	R	R	R	R
PRE-EMPTION C	R	R	R	R	G	G
C CHANGE	R	R	R	R	Y	Y
FLASHING OPERATION	FL R	FL R	FL R	FL R	FL Y	FL Y

NEMA PHASING

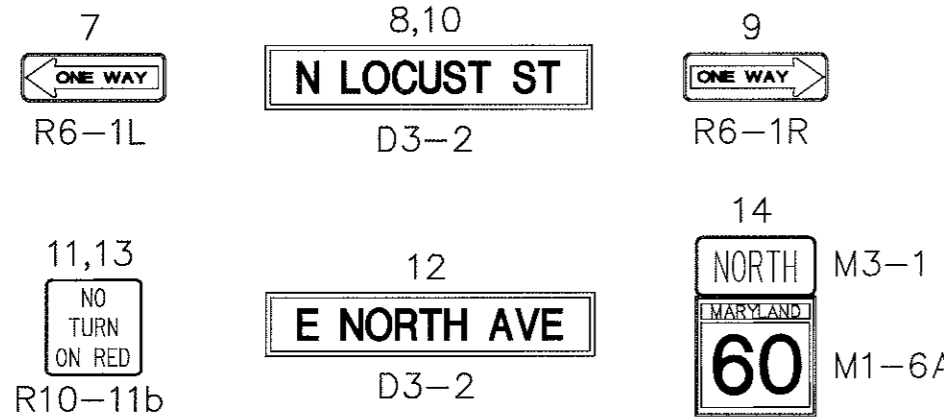


PHASING NOTES:
1. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY
2. PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY

SIGNALS



SIGNS

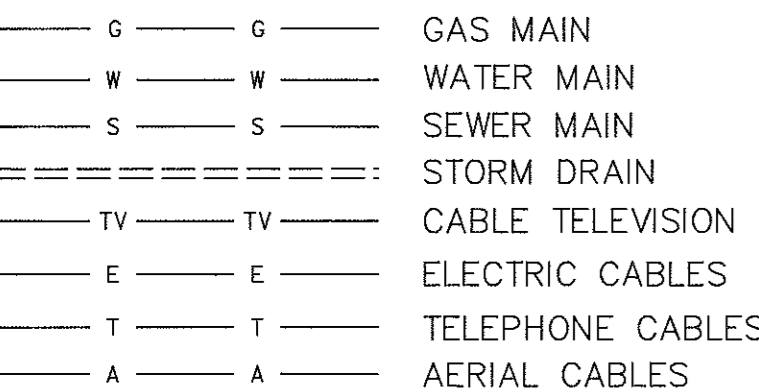


NOTE: ALL SIGNALS AND SIGNS ARE EXISTING.

CONSTRUCTION DETAILS

- (A) INSTALL BASE MOUNTED CABINET, SIZE #5, AND CONTROLLER WITH ALL NECESSARY EQUIPMENT AS SHOWN (NOTE: 2-4", 90-DEGREE P.V.C. BENDS AND 2-2" 90-DEGREE P.V.C. BENDS).
- (B) INSTALL 2" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).
- (C) INSTALL 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT (SLOTTED).
- (D) INSTALL 4" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).
- (E) INSTALL 3" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT - RISER AND 3" WEATHERHEAD.
- (F) INSTALL 3" P.V.C. (SCHEDULE 40) ELECTRICAL CONDUIT (TRENCHED).
- (G) INSTALL 2" P.V.C. BEND IN EXISTING BASE.
- (H) USE EXISTING SIGNAL HEAD.
- (M) INSTALL HANDHOLE.
- (N) INSTALL HANDHOLE (CITY STANDARD).
- (S) REMOVE AND REPLACE EXISTING SIDEWALK.
- (U) REMOVE EXISTING CONTROLLER AND CABINET FROM TRAFFIC SIGNAL POLE AND INSTALL RUBBER PLUG.
- (V) INSTALL 10' OF 2" P.V.C. (SCHEDULE 80) ELECTRICAL CONDUIT - RISER AND COIL 25' OF ADDITIONAL CABLE.
- (W) USE EXISTING OPTICOM DETECTOR.

UTILITY LEGEND



INTERSECTION DESCRIPTION

I. GENERAL

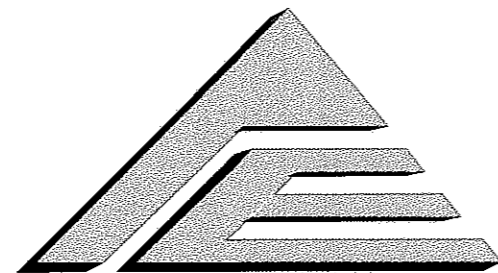
THIS INTERSECTION IS NORTH LOCUST STREET AND EAST NORTH AVENUE. CONSTRUCTION AT THIS INTERSECTION INVOLVES THE REPLACEMENT OF THE EXISTING TRAFFIC SIGNAL CONTROLLER AND INTERCONNECTION WITH THE OTHER SIGNALIZED INTERSECTIONS IN THE NEW CITY-WIDE SYSTEM. IT IS ASSUMED THAT EAST NORTH AVENUE RUNS IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN A NEMA THREE (3) PHASE PRE-TIMED MODE. EASTBOUND AND WESTBOUND EAST NORTH AVENUE WILL OPERATE CONCURRENTLY. NORTHBOUND LOCUST STREET WILL OPERATE SEPARATELY.

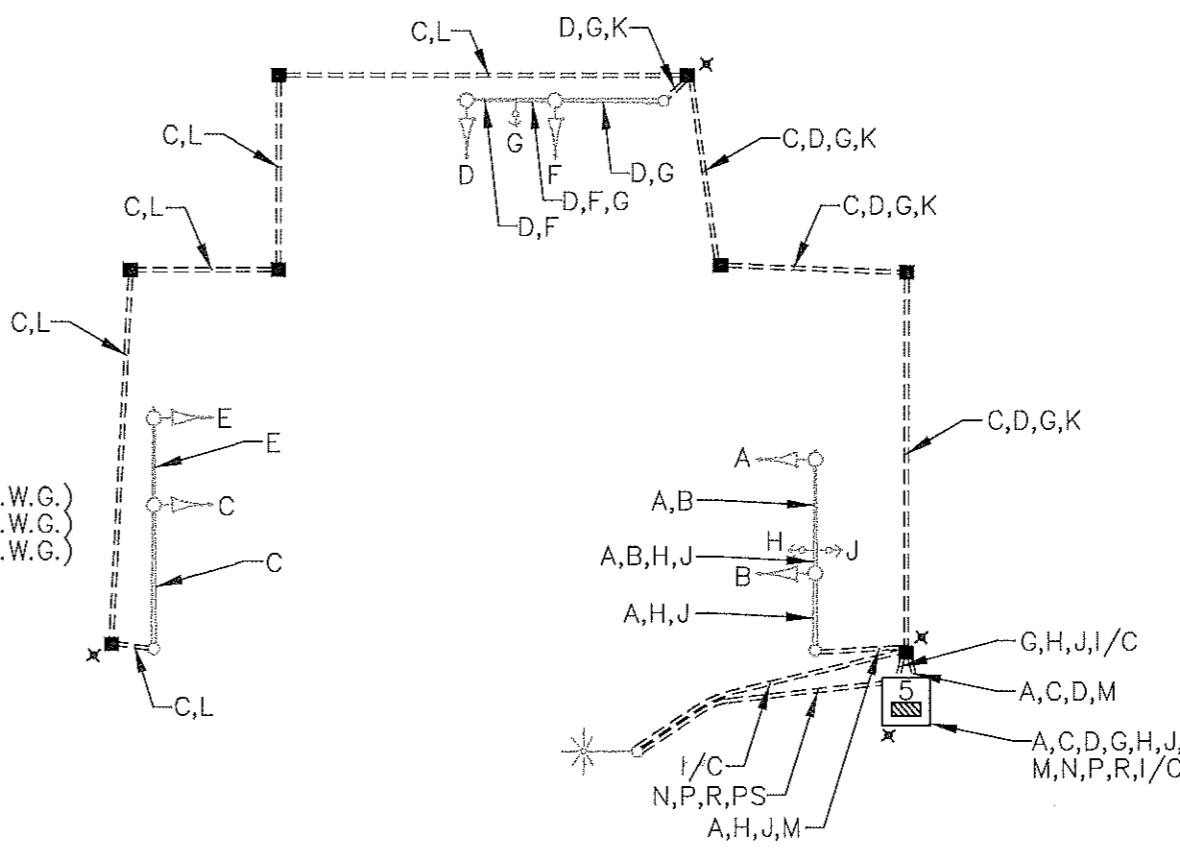
PRE-EMPTION ON WESTBOUND EAST NORTH AVENUE WILL CALL PRE-EMPTION A. PRE-EMPTION ON EASTBOUND EAST NORTH AVENUE WILL CALL PRE-EMPTION B. PRE-EMPTION ON NORTHBOUND NORTH LOCUST STREET WILL CALL PRE-EMPTION C.

A NEW EIGHT PHASE FULLY ACTUATED CONTROLLER WITH TELEMETRY MODULE, AND PRE-EMPTION HOUSED IN A GROUND MOUNTED CABINET WILL BE INSTALLED.



A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 96-317

WIRING DIAGRAM



WIRING LEGEND

- A - 7 CONDUCTOR CABLE (NO. 14 A.W.G.)
- B - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- C - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- D - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- E - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- F - 5 CONDUCTOR CABLE (NO. 14 A.W.G.)
- G - 3M OPTICOM DETECTOR CABLE, MODEL 138
- H - 3M OPTICOM DETECTOR CABLE, MODEL 138
- J - 3M OPTICOM DETECTOR CABLE, MODEL 138
- K - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- L - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- M - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
- N - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
- P - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
- R - 1 CONDUCTOR CABLE (NO. 4 A.W.G.)
- S - 3/4"x10" GROUND ROD
- PS - PROPOSED ELECTRICAL SERVICE
- I/C - INTERCONNECT CABLE

EQUIPMENT LISTS

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	BASE MOUNTED LOCAL CABINET (SIZE 5) LESS DETECTION EQUIPMENT WITH 8 PHASE ASC II CONTROLLER WITH TELEMETRY AND OPTICOM PRE-EMPTION MODULE

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
5	CY	205	TEST PIT EXCAVATION
8	CY	206	REMOVAL OF EXISTING SIDEWALK
625	SF	610	4 INCH CONCRETE SIDEWALK
1	EA	816	INSTALL CONTROLLER AND CABINET-BASE MOUNT
1	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
7	EA	SP	FURNISH AND INSTALL ELECTRICAL HANDHOLE (CITY STANDARD)
1	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
3	EA	SP	FURNISH AND INSTALL CONDUIT BEND IN EXISTING BASE
10	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT-RISER
30	LF	805	FURNISH AND INSTALL 3" SCHEDULE 80 RIGID PVC CONDUIT-RISER
150	LF	805	FURNISH AND INSTALL 2" SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
30	LF	805	FURNISH AND INSTALL 3" SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
10	LF	805	FURNISH AND INSTALL 4" SCHEDULE 40 RIGID PVC CONDUIT-TRENCHED
100	LF	805	FURNISH AND INSTALL 2" SCHEDULE 80 RIGID PVC CONDUIT-SLOTTED
1	EA	807	FURNISH AND INSTALL CONTROL AND DISTRIBUTION EQUIPMENT
1	EA	SP	AS-BUILT FOR TRAFFIC SIGNAL
4	EA	804	FURNISH AND INSTALL GROUND ROD-3/4 INCH DIAMETER X 10-FOOT LENGTH
250	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
250	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-1 CONDUCTOR (NO. 4 AWG - THHN/THWN)
450	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-5 CONDUCTOR (NO 14 AWG)
75	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE-7 CONDUCTOR (NO 14 AWG)
250	LF	810	FURNISH AND INSTALL OPTICOM M-138 DETECTOR CABLE
1	LS	SP	DELIVERY OF SALVAGED EQUIPMENT
1	LS	SP	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
1	LS	SP	REMOVAL OF EXISTING SIGNAL EQUIPMENT TO BE SALVAGED

NOTE: ALL EQUIPMENT AND/OR MATERIALS TO BE REMOVED BY THE CONTRACTOR, BUT NOT LISTED BELOW, SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

QUANTITY	UNIT	DESCRIPTION
1	EA	CONTROLLER AND CABINET

CITY OF HAGERSTOWN, MARYLAND
ENGINEERING DEPARTMENT

LOCATION: North Locust St. at East North Ave.

TITLE: TRAFFIC SIGNAL UPGRADE

DRAWN BY: A.W. (BASE PLAN)	DATE: 8-96
SURVEY BY: A.J.B.	DATE: 7-96
SCALES: HORIZONTAL: 1" = 10'	VERTICAL: -
APPROVED: _____	FILE NUMBER: 67-054-11
DATE: _____	
BY: _____	CITY ENGINEER

MDOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

LOG MI. 21MLOC00.93

DRAWN BY: M. GESELL
DES. BY: J. LAWRENCE
CHK. BY: _____

North Locust St. at East North Ave.

COUNTY: WASHINGTON

DATE: 05/30/97
SCALE: 1" = 10'
F.A.P. NO. STPG-218-1(7)E
S.H.A. NO. WA9535185
CITY NO. 07-243-332

TS NO. 3711
SHEET NO. 46 OF 66